Newsletter V (01.01.2024 - 30.04.2024)

SCIENTIFIC MEETINGS

- **MindLab on Functional Materials and the 19th Winter Workshop on Molecular Acoustics, Relaxation and Calorimetric Methods**

MindLab on Functional Materials and the 19th Winter Workshop on Molecular Acoustics, Relaxation and Calorimetric Methodsmerged this year into a fully integrated event, covering widely considered topics of materials of the future. This inspiring event, which allowed scientists from around the world to meet and debate was held in Meta Hotel in Szczyrk, Poland, from 26th to 29th of February 2024

Topics covered at this meeting include aspects of organic, inorganic, and pure-carbon (including flexible and wearable) **electronics**: OFETs, OLEDs, solar cells, supercapacitors, electrolytes, and **thermodynamics**: heat transfer (io)nanofluids, multifunctional greases, phase change materials, etc.

The ExCEED project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 952008

PROGRAMME OF MINDLAB ON FUNCTIONAL MATERIALS AND 19TH WORKSHOP ON MOLECULAR ACOUSTICS, RELAXATION AND CALORIMETRIC METHODS

MindLab on Functional Materials and 19th Winter Workshop on Molecular Acoustics, Relaxation and Calorimetric Methods

Szczyrk, 26 February – 29 February 2024

26.02.2024 Monday	
14:00	*Lunch*
15:00-15:10	**OPENING CEREMONY of the Conferences** **18th IOS'2024** **51st WSEAV** **52nd WSWQA**
15:10-16:00	**JUBILEE OF PROF. WIESŁAW WOLIŃSKI AND PROF. ANTONI ŚLIWIŃSKI**
15:10-16:00	*Addresses and speeches*
16.00 – 17.00	*Coffee Break*
17.00 – 18.30	**JUBILEE PLENARY SESSION**
17.00 – 17.30	*Plenary lecture of IOS Conference* **Photonic integrated circuits – on the road from telecom to sensing** R. PIRAMIDOWICZ, S. STOPIŃSKI, K. ANDERS, A. JUSZA, A. PAŚNIKOWSKA, M. LELIT, A. POŁATYŃSKI, A. BIENIEK-KACZOREK, A. KAŹMIERCZAK, M.A. BUTT, P. WIŚNIEWSKI, M. SŁOWIKOWSKI, M. JUCHNIEWICZ, K. PAVLOV, K. PIERŚCIŃSKI, D. PIERŚCIŃSKA, J. JUREŃCZYK, M. LIEBERT
17.30 – 18.00	*Plenary lecture of WSWQA Conference* **The essence of a pulse compression and SAW technology application for signal processing in a modern radar systems** A. KAWALEC
18.00 – 18.30	*Plenary lecture of WSEAV Conference* **Advancements in Computational Techniques for Analyzing Aircraft Noise: Addressing Challenges and Refining Models** A. CHYLA, O. ZAPOROZHETS, A. NOWOŚWIAT, M. BUKAŁA
18:30-19:30	*Supper*
19:30	**MUSIC GLANCE**

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27.02.2024 Tuesday	
8:00	***Breakfast***
13:00	***Lunch***
	SESSION
14:00-14:45	**Covalent organic frameworks – a bridge between soft and crystalline semiconductors** D. PEREPICHKA
14:45-15:30	**Tuning energy levels in π-conjugated homopolymers by side-chain functionalization: donor-acceptor interactions between the backbone and side groups** I. PEREPICHKA
15:30-16:00	**(Electro)chemically deposited organic photosensitizers as light-activated antimicrobial coatings** A. BLACHA-GRZECHNIK
16:00-16:30	***Coffee break***
16:30-17:00	**Functionalization of metal-organic frameworks for proton conduction** D. MATOGA
17:00-17:30	**The impact of structural modification on electrochromic and electroluminescent properties of thiophene/benzothiadiazole D-A-D derivatives** S. PLUCZYK-MAŁEK, R. GANCZARCZYK, R. RYBAKIEWICZ-SEKITA, M. ZAWADZKA, P. PANDER P. LEDWOŃ, D. NASTULA
17:30-17:45	**Dimensional scan of IoNanoFluid stability – from 0D to 3D nanocarbons in ionic liquids** S. RUCZKA, R. JĘDRYSIAK, S. BONCEL
17:45-18:00	**Infrared electrochromic properties of the *s*-tetrazine derivative** D. NASTULA, S. PLUCZYK-MAŁEK, A. BLACHA-GRZECHNIK, P. WAGNER
20:00	***Festive Supper***

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28.02.2024 Wednesday	
8:00	*Breakfast*
13:00	*Lunch*
14:00-19:00	**SESSION**
14:00-14:50	**Thermal management and storage through smart materials** L.VALLESE, G. LOMBARDO, D. MENEGAZZO, S. BORDIGNON, M. DE CARLI, G. FERRARINI, S. BOBBO, F. AGRESTI, S. BARISON, A.A. AYDIN, H. JAVADI, B. BADENES, J.F. URCHUEGUÍA, Z. URE, M. BOTTARELLI, S. CESARI, E. BACCEGA, L. FEDELE
14:50-15:20	**From functionalization to functionality – physicochemistry of nanocarbons toward applications** S. BONCEL
15:20-15:50	**Comparison and characterization of different methods of carbon nanotubes functionalization** A. KOLANOWSKA, S. BONCEL, M. DZIDA
15:50-16:10	**Low-viscosity ionanofluids with remarkable thermal conductivity – the latest developments in ionanofluids** K. CWYNAR, A. KOLANOWSKA, S. BONCEL, M. DZIDA
16:10-16:30	**A critical overview of literature data on the isobaric heat capacity of ionanofluids** K. KACZMAREK, K. CWYNAR, M. MUSIAŁ, A. TARGIEL, E. ZORĘBSKI, M. DZIDA
16:30-17:00	*Coffee break*
17:00-17:30	**Exploring the relationship between crystal structure and the properties of organic materials** C.E.S. BERNARDES
17:30-18:00	**Charge, polar, and nonpolar interactions - theoretical approach** M. MAKOWSKI
18:00-18:30	**Nanoparticles in complex advanced materials – an introduction to nanofluids** G. ŻYŁA
18:30-19:00	**Structural, spectroscopic and thermophysical studies of ionanofluids composed of long multi-walled carbon nanotubes and pyrrolidinium-based ionic liquid** M. DZIDA, S. BONCEL, B. JÓŹWIAK, H. F. GREER, M. DULSKI, A. GOLBA, R. FLAMHOLC, G. DZIDO, J. DZIADOSZ, A. KOLANOWSKA, R. JĘDRYSIAK, Ł. SCHELLER, K. CWYNAR, E. ZORĘBSKI, C.E.S. BERNARDES, M.J.V. LOURENÇO, C.A. NIETO DE CASTRO
19:00-20:00	*Supper*

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CONE SCIENTIFIC SEMINARS

- **Guest lectures given by Prof. Christopher Brett and Prof. Ana Maria Oliveira-Brett**

On April 8th and 9th, in the Auditorium of the Biotechnology Centre (Krzywoustego 8) the CONE scientific seminars was held with the guest lectures given by Prof. Christopher Brett and Prof. Ana Maria Oliveira-Brett from the Department of Chemistry, University of Coimbra, Coimbra, Portugal.

Prof. Christopher Brett gave a talk on "Redox polymer and nanomaterial modified electrodes for electrochemical sensors and biosensors," while Prof. Ana Maria Oliveira-Brett presented a lecture on "Health-Relevant Biological Interactions Bioelectrochemical Sensing."

During this seminars, on 8th of April specialists Prof. Perepichka and Prof. Cosnier gave a talk as well and on 9th of April, colleagues from our Centre presented their works. Topics include bioelectrochemistry, sensors, carbon nanomaterials, and advanced applications.

The visit was organized by the Centre for Organic and Nanohybrid Electronics and co-financed as part of the implementation of the task in the pro-quality program regarding investment in the development of internationalization from the funds of the Excellence Initiative – Research University program.

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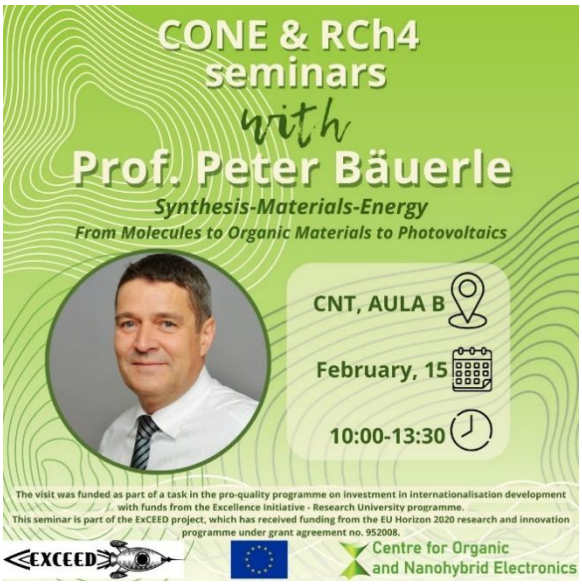
- **Guest lecture by Prof. Peter Bäuerle**

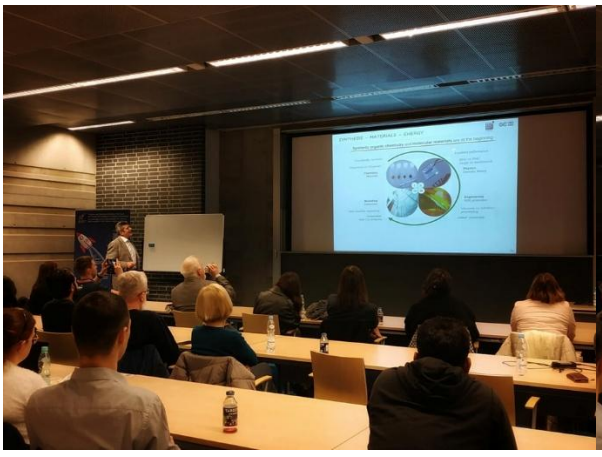


On February 15, in the Centre for New Technologies (CNT, Konarskiego 22B, Aula B) Prof. Peter Bäuerle from the laboratory of the Institute of Organic Chemistry II and Advanced Materials, University of Ulm gave a lecture entitled 'Synthesis-Materials-Energy. From Molecules to Organic Materials to Photovoltaics'.

Prof. Bäuerle research interests are focused on the development of novel organic semiconducting and conducting materials, in particular, conjugated poly- and oligothiophenes. Synthetic strategies and new reactions to their functionalization, structure-property relationships, self-assembling properties, and their applications in electronic devices, in particular organic solar cells, are investigated. Results of his work have been published in more than 400 peer-reviewed scientific papers (>27000 citations, H-index 79), 9 book chapters, and 16 patents. He held various guest professorships at universities in Osaka (Japan, 2002), Rennes (France, 2004), Melbourne (Australia, 2008), Shanghai (China, 2010), and Gainesville (USA, 2012). He is co-founder of Heliatek GmbH, Dresden/Ulm, a company developing organic solar foils (2006). Institutional responsibilities included Dean of the Faculty, Vice President for Research (2008-2012), and Board of University Clinic Ulm (2011-2015). He is elected member of Leopoldina, National Academy of Sciences (2013-to date), and EURASC, European Academy of Sciences (2016-to date). For his work in the field of conjugated π-systems and organic photovoltaics, he was awarded with the Emil-Fischer-Medal of the German Chemical Society (GDCh, 2022).

As part of the organized seminars, our members Prof. Katarzyna Krukiewicz and Prof. Igor Perepichka also had the pleasure of presenting their groups' research interests in front of all the guests.

We sincerely thank everyone for coming, and we look forward to more such inspiring meetings!



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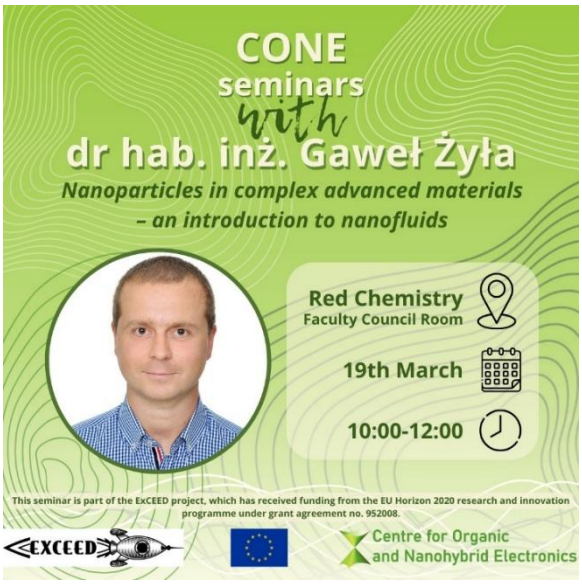
- **Guest lecture by Prof. Dmytro Perepichka**

On March 1st, in the Centre for New Technologies (CNT, Konarskiego 22B, Aula B) Prof. Dmytro Perepichka from the Department of Chemistry at McGill University in Montreal, Canada gave a lecture entitled “Molecules with unusual excited stated: luminescent radicals, diradicaloids and organic room-temperature phosphors.”

Dmytro (Dima) Perepichka is William MacDonald Professor of Chemistry and Chair of the Chemistry Department at McGill University, Montreal. His group focuses on synthetically driven research of π-electron functional materials, including small molecules, polymers and 2D materials, and understanding of their behavior in optoelectronic devices. He published ca. 200 peer-reviewed journal articles (including Science, Nature Mater., Nature Commun., J. Am. Chem. Soc., Angew. Chem., Adv. Mater., Chem. Rev., Chem. Soc. Rev.; >12,000 citations, H-index 56) and book chapters and received Research Excellence Award in Material Chemistry (2015) and T.K. Sham Award (2022) from the Canadian Society of Chemistry.

- **Guest lecture by Dr. hab. inż. Gaweł Żyła**



On March 19th at the Faculty of Chemistry Council Hall (M. Strzody 9, room 205) Dr. hab. inż. Gaweł Żyła from Politechnika Rzeszowska gave a lecture entitled "Nanoparticles in complex advanced materials – an introduction to nanofluids."

In this intriguing session our guest shown us the fascinating world of nanoparticles and their applications. Over the years, the synthesis of nanoparticles has become commonplace, leading to breakthroughs in various industries and medical fields. The lecture provided an introduction to the fundamental physicochemical properties of these materials and their practical implications.

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- **Guest lecture by Prof. Gianni Ciofani**

On April 26th, in the Centre for New Technologies (CNT, Konarskiego 22B, Aula B) Prof. Gianni Ciofani from Istituto Italiano di Tecnologia, Smart Bio-Interfaces, Pontedera, Italy gave a guest lecture entitled "Tuning Cellular Functions through Smart Nanomaterials.

Prof. Gianni Ciofani is a Principal Investigator of the Smart Bio-Interfaces Research Unit (since 2017) and Coordinator of the Center for Materials Interfaces (since 2021). His main research interests concern smart nanomaterials for nanomedicine, microphysiological systems, and nanomedicine in altered gravity conditions. He is coordinator or unit leader of several projects (about 6.5 MEur granted): in particular, he was awarded a Starting Grant and three Proof-of-Concept Grants by the European Research Council (ERC). Thanks to grants from the Italian Space Agency and the European Space Agency, he had the opportunity to carry out four experimental campaigns onboard the International Space Station. In 2018, his real-scale model of the blood-brain barrier was highlighted in the Annual Report on the ERC Activities and Achievements.

Gianni Ciofani is Knight of the Order of Merit of the Italian Republic, appointed by the President of the Italian Republic on December 27th, 2022.

The visit was organized by the Centre for Organic and Nanohybrid Electronics and co-financed as part of the implementation of the task in the pro-quality program regarding investment in the development of internationalization from the funds of the Excellence Initiative – Research University program.

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WORKSHOPS

- **Workshop for PhD students and young scientist**

On April 26th, in the Centre for New Technologies (CNT, Konarskiego 22B, room) Prof. Gianni Ciofani run a workshop for PhD students and young scientist on good practice in grant application.

Prof. Gianni Ciofani is author of more than 200 papers on international journals (WoS H-index 57), 3 edited books, and 20 book chapters, and delivered about 90 invited talks/lectures in international contexts. He serves as Panel Member / Reviewer for many funding agencies (including ERC, Swiss National Science Foundation, French National Research Agency, National Science Center of Poland), for about 200 international journals, and as Editorial Board Member of Bioactive Materials, International Journal of Nanomedicine, Journal of Physics: Materials, Nanomedicine UK, Nano Trends, and Scientific Reports; he is Specialty Chief Editor (Nanobiotechnology) of Frontiers in Bioengineering and Biotechnology and Associate Editor of BMC Biomedical Materials Science. He has been consistently ranked in the Stanford University's list of "World's Top 2%" scientists since 2020 (Elsevier data).

He is co-founder (2022) and Scientific Advisor of "Kidaria Bioscience SRL", an IIT spin-off company dedicated to the preparation and characterization of cosmetic and nutraceutical products based on natural-derived active ingredients. He is also co-founder (2021) and member of the executive committee of "ERC in Italy APS", a non-profit association of ERC awardees born to promote fundamental and frontier research in Italy.

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OTHER EVENTS

UPCOMING EVENTS

We are organizing the International Conference on Organic and Nanohybrid Functional Materials (ICON FM), which will be held from June 10th to 14th, 2024in Gdańsk (Hotel Holiday Inn Gdańsk – City Center, Chmielna 1, 80-750 Gdańsk) with Gala Dinner at Malbork Castle.

The registration is now open. We're looking forward to hosting you in Gdańsk!

https://icon-fm.pl/.../international-conference-on.../

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